

REMARKS

Introduction

By this paper, claims 1, 7, 12, and 14 are amended. New claims 17-20 are added. Claims 1-7 and 9-20 are pending in the application. Applicant respectfully requests reconsideration of claims 1-7 and 9-20 in view of the following remarks. The following remarks are not intended to be an exhaustive enumeration of the distinctions between any particular reference and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited art. Further, Applicant does not admit any assertion made in the Office Action characterizing the cited art that is not specifically addressed herein.

Please note that Applicant's remarks are presented in the order in which the issues were raised in the Office Action for the convenience and reference of the Examiner.

Rejections Under 35 U.S.C. § 112

The office Action rejected claims 7-8, and 12-15 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Claim 8 is cancelled and claims 7, and 12-15 have been amended to overcome the rejection under 35 U.S.C. § 112, second paragraph. Withdrawal of the rejection is respectfully requested.

Rejections Under 35 U.S.C. § 102 and 35 U.S.C § 103

Claims 1-2, 5, 7-9, and 11-16 are rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent 4,862,567 (*Beebe*) or in the alternative under 35 U.S.C. § 103(a) as obvious over

Beebe in view of U.S. Patent 4,852,451 (*Rogers*). Claims 1, 2, 5, 7-9, and 11-16 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, as obvious over U.S. Patent No. 4,385,546 (*Lee*). Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Lee* in view of U.S. Patent No. 5,708,2321 (*Koon*). Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over *Lee* in view of U.S. Patent No. 5,399,187 (*Mravic*). The following discussion illustrates that the pending claims overcome the rejections made under 35 U.S.C. §§ 102, 103.

The amendments presented by this response further illustrate that the art cited in the Office Action fail to anticipate or make obvious the claimed invention. More particularly, the cited art fails to teach the elements of the pending claims as those elements are set forth.

Both *Beebe* and *Lee* relate to guns and in particular to cartridge reloading dies. In particular, both *Beebe* and *Lee* teach that the cartridges are intended to be reloaded or reused. Claim 1 clearly requires a single-use disruptor where the disruptor and container are destroyed in its single-use after detonation of the explosive material. As a result, this requirement of claim 1 is not taught or suggested by the cited art.

Further, claim 1 requires: “said enclosure having a wall of the projectile locatable at any one of a number of positions defining the capacity of said enclosure for explosive material”. Although *Beebe*, for example, states that the “depth of penetration of the bullet into the casing is closely and accurately controlled by means of a micrometer type adjusting head” (*see* col. 5, lines 6-9), *Beebe* fails to teach or suggest that the depth of penetration of the bullet into the casing defines the capacity of said enclosure for explosive material as required by claim 1.

For example, the Examiner notes that an explosive and igniter is inherent in *Beebe*. Applicant respectfully disagrees for several reasons. First, an explosive is different from

powder. In a firearm cartridge, for a given type of propellant, which must have burning characteristics appropriate for the caliber and projectile weight, it is necessary for the quantity of powder loaded in the case to be controlled within certain limits. An excessive amount of powder potentially causes dangerously high breach pressures, and too little can lead to incomplete burning. *See e.g. Rogers* col. 1, lines 45-64.

However, controlling the depth of penetration of the bullet into the casing controls the volume in which the powder burns, but does not define the capacity of said enclosure for explosive material as required by claim 1. There is no disclosure in *Beebe* or in *Lee* that the amount of explosive can be variable and can be determined by the position of the wall of the projectile. Because the depth of penetration of the bullet into the casing does not define the capacity of the enclosure for explosive material, claim 1 is not taught or suggested by *Beebe*.

Further, the fact that *Rogers* discusses that more than one load of powder can be dropped into the cartridge further illustrates that the cited art fails to teach an “enclosure having a wall of the projectile locatable at anyone of a number of positions defining the capacity of said enclosure for explosive material” as required by claim 1. In other words, the fact that a cartridge can have excessive powder (e.g., two loads as suggested in *Rogers*) illustrates that the depth of penetration of the bullet into the casing is not defining the capacity of said enclosure for explosive material. In *Rogers*, various precautions are taken to ensure that powder is, indeed, poured into the cartridge case and that double, or other excessive, loads are not inadvertently added. The crimp round the neck of the case not only holds the bullet in the preferred position for consistent feeding of the cartridge from the magazine to the breech, but also determines the constant volume available within the case for the powder necessary for consistent burning. The projectile is not used to compress the powder within the case.

In other words, *Rogers* relates to the measurement of the amount of powder in a gun cartridge shell, and is not related to single-use disrupters or arrangements in single-use disrupters to vary the amount of explosive or to defining the capacity of the enclosure for explosive material.

Further, the argument in the Office Action further relies on assuming that the barrel/chamber of the firearm corresponds to “the container” of Claim 1 and that the shell casing 18 is the “enclosure”. It is evident that the shell casing 18 does not have a wall of the projectile which is locatable at any one of a number of positions such as to define the capacity of the enclosure for explosive material as illustrated above.

In addition to these fundamental differences, there are further distinctions. In the present invention, detonating explosive is used and, for consistent performance, it is necessary for the explosive to be in intimate contact with the wall of the projectile. To this end, directed pressure can be applied on the projectile by means of the threaded consolidating ring which applies axially directed thrust, in some embodiments, by means of the spacer rings. The amount of explosive is determined by the operator according to the type of projectile and the task to which the device is being put. For example, more explosive is needed to penetrate the wall of a thick-cased target munition than that of one with a thin case.

To this end, claim 1 requires “said enclosure having a wall of the projectile locatable at any one of a number for positions defining the capacity of said enclosure for explosive materials”. The invention thus can provide the means of varying the space available for the explosive and for compressing it. This is in contrast to a cartridge with a crimped projectile in that the functions of the crimp are to (i) maintain a constant internal volume and (ii) to *prevent* compression of the contents.

A firearm cartridge ordinarily has a means of ignition of the powder (which is usually percussion actuated but in certain instances electrically initiated) usually located at the opposite end of the cartridge case from the projectile although this is more a matter of simplicity of design than of proper functioning. A charge of high explosive necessarily has a corresponding means of initiating its detonation.

A "shaped charge", requires that the means of initiation be placed at the point most distant from the propellant for the detonation wave front to impinge upon the rear surface of the projectile in an axially symmetrical manner. The present invention provides a means of aligning the initiating means, which is most commonly a detonator, on the axis.

One advantage of the present invention is the versatility accorded to the operator who can readily and quickly operate the several variables so as to constitute a wide range of types of charge. The technology of the firearms cartridge as taught by the cited art does not offer this versatility.

For at least these reasons, claim 1 is not anticipated or made obvious by the cited art. For at least the same reasons, independent claim 12 is likewise not anticipated or made obvious by the cited art. The dependent claims 2, 4-5, 7-11, and 13-16 also overcome the cited art for at least the same reasons. Further, because *Lee*, *Beebe* and *Rogers* fail to teach or suggest claims 1 and 12 for the reasons discussed above, the rejections of claims 4 and 10 are also overcome. Applicant reserves the right to contest the assertions of the Examiner made with regard to the teachings of *Koon* and *Mravie* if necessary.

Allowable Subject Matter

Applicant thanks Examiner for the careful review of claims 3 and 6. Applicant declines to amend at this time as claim 1 is believed to be in condition for allowance as discussed above.

New Claim

New claims 17-20 are presented and are not believed to be taught or suggested by the cited art for at least the reasons discussed herein.

Conclusion

In view of the foregoing, Applicant respectfully submits that the claims are in condition for allowance and favorable action is respectfully requested. In the event of any question, the Examiner is respectfully requested to initiate a telephone conversation with the undersigned.

Dated this 8th day of August 2006.

Respectfully submitted,

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